



Science Arts & Métiers (SAM)

is an open access repository that collects the work of Arts et Métiers Institute of Technology researchers and makes it freely available over the web where possible.

This is an author-deposited version published in: <https://sam.ensam.eu>
Handle ID: <http://hdl.handle.net/10985/18694>

To cite this version :

Francisco CHINESTA, Emmanuelle ABISSET-CHAVANNE - A journey around the different scales involved in the description of matter and complex systems - 2018

Any correspondence concerning this service should be sent to the repository

Administrator : scienceouverte@ensam.eu



AUTHORS: Francisco CHINESTA
& Emmanuelle ABISSET-
CHAVANNE

A journey around the different scales involved in the description of matter and complex systems

A brief overview with special emphasis in
kinetic theory approaches.

This book covers the main scales of description of matter, starting at its finest level, the quantum scale, moving through ab-initio, molecular dynamics, coarse grained approaches, to finish at the scale of kinetic theory models that allows a nice compromise between the rich but expensive microscopic descriptions and the computationally cheap but sometimes too coarse macroscopic descriptions. The book addresses undergraduate and graduate students, as well as beginners in multi-scale modeling of materials. (**4th cover, excerpt from publisher's website**)